



Environmental & Industrial Hygiene Services

3082 25th Street, Port Arthur, Texas 77642 • (409) 983-4575 FAX (409) 982-1522
5544 Leopard Street, Corpus Christi, Texas 78408 • (361) 299-9900 FAX (361) 299-1155
138 S. Cities Service Hwy., Sulphur, Louisiana 70663 • (337) 626-2121 FAX (337) 626-2126

Client: **City of Houston**
7411 Park Place Blvd.
Houston, TX 77087

Attn: **Mr. Dan Hoyt**
Bureau of Air Quality Control
Phone: 832-393-5631; Fax: 713-640-4341
E-mail: Dan.hoyt@cityofhouston.net

Report Date: 04/07/10
Sample Matrix: Gas
Date Collected: 03/25/10
Time Collected: 4:06pm-5:06pm
Collected By: Youjun Qin
Date Received: 04/05/10
Time Received: 5:10pm
CHEMTEX FILE #: P10040113

RESULTS OF ANALYSIS

PROJECT No: Canister 1662

PROJECT NAME: City of Houston DIAL

PROJECT LOCATION: Shell Deer Park

SAMPLE IDENTIFICATION: Southeast CR-3

CHEMTEX #: P10040113

Analyte	Result (ppb, v)	Reporting Limit, (RL) (ppb,v)	Flag
Propylene	13.69	2.5	
Propane	81.19	2.5	
Freon 12	< 2.5	2.5	
Chloromethane	< 2.5	2.5	
Freon 114	< 2.5	2.5	
Isobutane	16.37	2.5	
Vinyl chloride	< 2.5	2.5	
1-Butene	< 2.5	2.5	
1,3-Butadiene	< 2.5	2.5	
Butane	22.98	2.5	
t-2-Butene	< 2.5	2.5	
Bromomethane	< 2.5	2.5	
c-2-Butene	< 2.5	2.5	
Chloroethane	< 2.5	2.5	
Acetone	< 2.5	2.5	
Isopentane	< 2.5	2.5	
Freon 11	< 2.5	2.5	
Isopropyl Alcohol	< 2.5	2.5	
1-Pentene	< 2.5	2.5	
Pentane	< 2.5	2.5	
Isoprene	< 2.5	2.5	
t-2-Pentene	< 2.5	2.5	
c-2-Pentene	< 2.5	2.5	
1,1-Dichloroethene	< 2.5	2.5	
2-Methyl-2-butene	< 2.5	2.5	
Methylene Chloride	< 2.5	2.5	
Carbon disulfide	< 2.5	2.5	
Freon 11	< 2.5	2.5	
2,2-Dimethylbutane	< 2.5	2.5	
Cis-1,2-Dichloroethane	< 2.5	2.5	
1,1-Dichloroethane	< 2.5	2.5	
Cyclopentane	< 2.5	2.5	
2,3-Dimethylbutane	< 2.5	2.5	
MTBE	< 2.5	2.5	
2-Methylpentane	< 2.5	2.5	
2-Butanone	< 2.5	2.5	
3-Methylpentane	< 2.5	2.5	

NOTICE/DISCLAIMER: The analytical results, opinions or interpretations contained in this report are based upon information and material supplied by the client for whose exclusive and confidential use this report has been made. No person or entity other than the client may rely on this report. Any such reliance will be unjustified. Any person, other than the client, that reads this report does so at his or her own risk. The analytical results, opinions and/or interpretations expressed herein represent the best judgment of Chemtex, based on the information and instructions received from the client. Chemtex makes no warranty or representation, express or implied, of any type, and expressly disclaims same. This report shall not be reproduced, in whole or in part, without the written approval of Chemtex. In no event shall Chemtex be responsible for any damage greater than the amount that it received for the analysis performed.



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SAMPLE IDENTIFICATION: Southeast CR-3
CHEMTEX #: P10040113

Analyte	Result (ppb, v)	Reporting Limit, (RL) (ppb, V)	Flag
1-Hexene	< 2.5	2.5	
2-methyl-1-pentene	< 2.5	2.5	
trans-1,2-dichloroethene	< 2.5	2.5	
4-methyl-1-pentene	< 2.5	2.5	
Hexane	< 2.5	2.5	
Ethylacetate	< 2.5	2.5	
Chloroform	< 2.5	2.5	
TetrahydroFuran	< 2.5	2.5	
MethylCyclopentane	< 2.5	2.5	
2,4-Dimethylpentane	< 2.5	2.5	
1,1,1-Trichloroethane	< 2.5	2.5	
Benzene	< 2.5	2.5	
Carbontetrachloride	< 2.5	2.5	
Cyclohexane	< 2.5	2.5	
2-Methyl Hexane	< 2.5	2.5	
2,3-Dimethylpentene	< 2.5	2.5	
3-Methylhexane	< 2.5	2.5	
1,2-Dichloropropane	< 2.5	2.5	
Bromodichloromethane	< 2.5	2.5	
Trichloroethylene	< 2.5	2.5	
Isooctane	< 2.5	2.5	
Heptane	< 2.5	2.5	
1,3-Dichloro-1propene	< 2.5	2.5	
cis-1,3-Dichloropropene	< 2.5	2.5	
MIBK	< 2.5	2.5	
Methylcyclohexane	< 2.5	2.5	
trans-1,3-dichloropropane	< 2.5	2.5	
1,1,2-trichloroethane	< 2.5	2.5	
2,3,4-Trimethyl pentane	< 2.5	2.5	
Toluene	5.35	2.5	
2-methylheptane	< 2.5	2.5	
2-Hexanone	< 2.5	2.5	
Dibromochloromethane	< 2.5	2.5	
3-Methylheptane	< 2.5	2.5	
1,2-Dibromoethane	< 2.5	2.5	
Octane	< 2.5	2.5	
Tetrachloroethylene	< 2.5	2.5	

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PROJECT LOCATION: Shell Deer Park

SAMPLE IDENTIFICATION: Southeast CR-3

CHEMTEX #: P10040113

Analyte	Result (ppb, v)	Reporting Limit, (RL) (ppb,V)	Flag
Chlorobenzene	< 2.5	2.5	
Ethylbenzene	< 2.5	2.5	
m,p-Xylene	< 2.5	2.5	
Bromoform	< 2.5	2.5	
Styrene	< 2.5	2.5	
1,1,2,2-tetrachloroethane	< 2.5	2.5	
o-xylene	< 2.5	2.5	
Nonane	< 2.5	2.5	
Isopropylbenzene	4.10	2.5	
Propylbenzene	< 2.5	2.5	
m-Ethyltoluene	< 2.5	2.5	
p-Ethyltoluene	< 2.5	2.5	
1,3,5-trimethylbenzene	< 2.5	2.5	
o-Ethyltoluene	< 2.5	2.5	
1,2,4-trimethylbenzene	< 2.5	2.5	
Benzylchloride	< 2.5	2.5	
1,3-Dichlorobenzene	< 2.5	2.5	
Decane	< 2.5	2.5	
1,4-Dichlorobenzene	< 2.5	2.5	
1,2,3-Trimethylbenzene	< 2.5	2.5	
1,2-Dichlorobenzene	< 2.5	2.5	
m-Diethylbenzene	< 2.5	2.5	
p-Diethylbenzene	< 2.5	2.5	
Undecane	< 2.5	2.5	
1,2,4-Trichlorobenzene	< 2.5	2.5	
Dodecane	< 2.5	2.5	
Hexachloro1,3-butadiene	< 2.5	2.5	

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E-mail: Dan.hoyt@cityofhouston.net

CHEMTEX FILE #: P10040113

QA/QC
LABORATORY CONTROL SAMPLE (LCS) RECOVERIES
QC BATCH ID: AT040510

Analyte	True value (ppb,v)	Obtained Value (ppb,v)	% Rec	Flag
Propylene	10.00	13.68	137	
Propane	10.00	12.24	122	
Isobutane	10.00	11.93	119	
1-Butene	10.00	12.61	126	
Butane	10.00	12.48	125	
t-2-Butene	10.00	12.70	127	
c-2-Butene	10.00	12.45	125	
Isopentane	10.00	10.79	108	
1-Pentene	10.00	11.50	115	
Pentane	10.00	12.07	121	
Isoprene	10.00	12.07	121	
t-2-Pentene	10.00	12.04	120	
c-2-Pentene	10.00	11.89	119	
2-Methyl-2-butene	10.00	11.89	119	
2,2-Dimethyl butane	10.00	11.74	117	
Cyclopentane	10.00	11.08	111	
3-Methylpentane	10.00	9.47	95	
1-Hexene	10.00	9.23	92	
2-methyl-1-pentene	10.00	9.02	90	
Hexane	10.00	10.19	102	
Methylcyclopentane	10.00	11.37	114	
2,4-Dimethylpentane	10.00	11.55	116	
Benzene	10.00	10.93	109	
Cyclohexane	10.00	11.06	111	
2-Methyl Hexane	10.00	8.68	87	
2,3-Dimethylpentane	10.00	8.76	88	
3-Methylhexane	10.00	8.69	87	
Heptane	10.00	8.11	81	
Methylcyclohexane	10.00	8.25	83	
2,3,4-Trimethyl pentane	10.00	8.46	85	
Toluene	10.00	7.96	80	
2-methylheptane	10.00	8.51	85	
3-Methylheptane	10.00	8.39	84	
Octane	10.00	7.70	77	

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CHEMTEX FILE #: P10040113

QA/QC
LABORATORY CONTROL SAMPLE (LCS) RECOVERIES
QC BATCH ID: AT040510

Analyte	True value (ppb,v)	Obtained Value (ppb,v)	% Rec	Flag
Ethylbenzene	10.00	7.94	79	
m,p-Xylene	20.00	15.86	159	
Styrene	10.00	8.36	84	
o-xylene	10.00	8.22	82	
Nonane	10.00	8.60	86	
Isopropylbenzene	10.00	8.82	88	
Propylbenzene	10.00	8.54	85	
m-Ethyltoluene	10.00	8.57	86	
p-Ethyltoluene	20.00	17.50	175	
1,3,5-trimethylbenzene	10.00	8.76	88	
o-Ethyltoluene	10.00	8.75	88	
1,2,4-Trimethylbenzene	10.00	8.74	87	
Decane	10.00	8.66	87	
1,2,3-Trimethylbenzene	10.00	8.38	84	
m-Diethylbenzene	10.00	8.24	82	
p-Diethylbenzene	10.00	8.08	81	
Undecane	10.00	7.73	77	

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CHEMTEX FILE #: P10040113

FLAGS

RL: Reporting Limit

J: Target analyte is between the MDL and RL values.

L: Target analyte recovered below the recovery limit.

H: Target analyte recovered above the recovery limit.

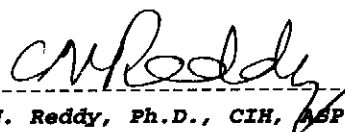
METHOD REFERENCES/ANALYSIS DATES & ANALYSTS

Analytes
VOAS

Method
EPA Method TO-15

Date Analyzed/Analyst
04/05/10 KBR

amd/kml*/CNR



Dr. C. N. Reddy, Ph.D., CIH, MSP
Director

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Chevrolet

P10040113

E-mail: chemtexpa@sbcglobal.net		Client: City of Houston Attn: Mr. Dan Hoyt, Bureau of Air Quality Control		Address: 7411 Park Place Blvd. Houston, TX 77087		Phone: 832-393-5631 Fax: 713-640-4341 E-mail: Dan.Hoyt@cityofhouston.net		
(if different from above) BILLING CONTACT/ADDRESS:		P. O. #: 1662	Project No.: CANISTER 1662.	Project Name: CITY OF HOUSTON DIAL		Project Location: SHELL DEER PARK		
CHEMTEX #	Sample Identification			Sample Media	Date Collected	Sampling Time (min)	Sampling Volume (lit)	Requested Parameters
1662	SOUTHEAST CR-3			CANISTER	3/25/10	4:06 PM - 5:06 PM (60 MIN)	6 L	DILUTION FACTOR: 3.92
Sample(s) Collected By: YOUSUN QIN		Expected Turnaround Time					<input type="checkbox"/> Regulatory <input type="checkbox"/> Non-Regulatory	
		Emergency Rush	2-4 hr Rush	24 hr Rush	48 hr Rush	7-14 days		
Relinquished By: FRANCIS AGOSTINI		Date/Time: 4/5/10 3PM.		Received By: <i>[Signature]</i>			Date/Time: 4/5/10 3PM	
Relinquished By: <i>[Signature]</i>		Date/Time: 4/5/10 5:10PM		Received for CHEMTEX BY: <i>[Signature]</i>			Date/Time: 4/5/10 5:10PM	

Facilities are also available: 5544 Leopard Street, Corpus Christi, Texas 78408; (361) 299-9900 e-mail: chemtexco@sbcglobal.net and 138 S. Cities Service Hwy., Sulphur, Louisiana 70663; (337) 626-2121 e-mail: chemtexco@sbcglobal.net

Facilities are also available: 5544 Leppard Street, Corpus Christi, Texas 78406, (361) 277-9800. Chemtex

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City of Houston
Bureau of Air Quality Control
Canister Sampling Data Sheet and Chain-of-Custody



Sample ID:	Canister #: <u>1662</u>
------------	-------------------------

Canister Cleaning Information (Laboratory Personnel Only)		
Canister Cleaning Operation	Pressure	Initials / Date
Canister Cleaned and Evacuated	in Hg	
Media Blank Evacuation	in Hg	

Sampling and Analysis Request Information (BAQC Investigator Only)		
Canister Received: (Initials / Date)	Canister Pressure (Upon Receipt): in Hg	
Pre-Sampling Pressure: <u>-30</u> in Hg Pre-Sampling Leak Test (Circle) <u>Pass</u> / Fail		
(* If the difference is greater than ± 2 in Hg, do not use the canister for sampling)		
Start Time: <u>4:06 PM</u>	End Time: <u>5:06 PM</u>	Elapsed Time: <u>60 min</u>
Post-Sampling Pressure: <u>-8.1</u> in Hg		
Potential Source (s) (Company's Name): <u>Shell</u>	Potential Source (s) (Company's) Address (es):	
Sample Collection Address: <u>southeast CR-3</u>	Alleged Chemical (s) (If Known)	
GPS Coordinates: <u>29.72487N 95.11957W</u>	Weather Conditions: <u>W/D: RA NW, WS: <u>8.8</u> mph</u>	
Sample Collected By: <u>Y. Qin</u>	Sample Date: <u>3/25/10</u>	
Phone Number:	E-mail:	

Site Description and Field Comments: <u>100 ppb level for some compounds.</u>
--

Analysis Method Requested (Circle) VOC's by TO-15 / Other Describe:

Canister Leak Test Information (BAQC Mobile Lab Personnel Only)					
Canister Leak Test	Field Pressure (in Hg)	Lab Pressure (in Hg)	Difference in Pressure	Test Results (Circle)	Initials / Date
Final				Pass / Fail / NA	

Canister Preparation Information (BAQC Mobile Lab Personnel Only)			
Canister Preparation	Dilution 1	Dilution 2	Initials / Date:
Pre-Dilution Pressure	<u>-8.2</u> in Hg	in Hg	
Post-Dilution Pressure	<u>25.0</u> psi	psi	
Dilution Factors	#1 <u>3.92</u>	#2	

Laboratory Comments:

Chain of Custody	
Relinquished by: (Signature/Date)	Received by: (Signature/Date)
<u>Y. Qin 3/31/10 8:40</u>	<u>Franco's agostini 3/31/10 8:40</u>



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Report Date: 04/07/10
Sample Matrix: Gas
Date Collected: 03/26/10
Time Collected: 16:10-17:10
Collected By: Peter Chen
Date Received: 04/05/10
Time Received: 5:10pm
CHEMTEX FILE #: P10040114

RESULTS OF ANALYSIS

PROJECT No: Canister 4570

PROJECT NAME: City of Houston DIAL

PROJECT LOCATION: Shell Deer Park

SAMPLE IDENTIFICATION: Downwind of ACU/BEU

CHEMTEX #: P10040114

Analyte	Result (ppb, v)	Reporting Limit, (RL) (ppb,V)	Flag
Propylene	10.88	2.5	
Propane	20.70	2.5	
Freon 12	< 2.5	2.5	
Chloromethane	< 2.5	2.5	
Freon 114	< 2.5	2.5	
Isobutane	5.40	2.5	
Vinyl chloride	< 2.5	2.5	
1-Butene	< 2.5	2.5	
1,3-Butadiene	< 2.5	2.5	
Butane	< 2.5	2.5	
t-2-Butene	< 2.5	2.5	
Bromomethane	< 2.5	2.5	
c-2-Butene	< 2.5	2.5	
Chloroethane	< 2.5	2.5	
Acetone	6.82	2.5	
Isopentane	< 2.5	2.5	
Freon 11	< 2.5	2.5	
Isopropyl Alcohol	< 2.5	2.5	
1-Pentene	< 2.5	2.5	
Pentane	< 2.5	2.5	
Isoprene	< 2.5	2.5	
t-2-Pentene	< 2.5	2.5	
c-2-Pentene	< 2.5	2.5	
1,1-Dichloroethene	< 2.5	2.5	
2-Methyl-2-butene	< 2.5	2.5	
Methylene Chloride	< 2.5	2.5	
Carbon disulfide	< 2.5	2.5	
Freon 11	< 2.5	2.5	
2,2-Dimethylbutane	< 2.5	2.5	
Cis-1,2-Dichloroethane	< 2.5	2.5	
1,1-Dichloroethane	< 2.5	2.5	
Cyclopentane	< 2.5	2.5	
2,3-Dimethylbutane	< 2.5	2.5	
MTBE	< 2.5	2.5	
2-Methylpentane	< 2.5	2.5	
2-Butanone	< 2.5	2.5	
3-Methylpentane	< 2.5	2.5	

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138 S. Cities Service Hwy., Sulphur, Louisiana 70663 • (337) 626-2121 FAX (337) 626-2126

Client: **City of Houston**
7411 Park Place Blvd.
Houston, TX 77087

Attn: **Mr. Dan Hoyt**
Bureau of Air Quality Control

Phone: 832-393-5631; Fax: 713-640-4341
E-mail: Dan.hoyt@cityofhouston.net

Report Date: 04/07/10
Sample Matrix: Gas
Date Collected: 03/26/10
Time Collected: 16:10-17:10
Collected By: Peter Chen
Date Received: 04/05/10
Time Received: 5:10pm
CHEMTEX FILE #: P10040114

RESULTS OF ANALYSIS

PROJECT No: Canister 4570

PROJECT NAME: City of Houston DIAL

PROJECT LOCATION: Shell Deer Park

SAMPLE IDENTIFICATION: Downwind of ACU/BEU

CHEMTEX #: P10040114

Analyte	Result (ppb, v)	Reporting Limit, (RL) (ppb,V)	Flag
1-Hexene	< 2.5	2.5	
2-methyl-1-pentene	< 2.5	2.5	
trans-1,2-dichloroethene	< 2.5	2.5	
4-methyl-1-pentene	< 2.5	2.5	
Hexane	< 2.5	2.5	
Ethylacetate	< 2.5	2.5	
Chloroform	< 2.5	2.5	
TetrahydroFuran	< 2.5	2.5	
MethylCyclopentane	< 2.5	2.5	
2,4-Dimethylpentane	< 2.5	2.5	
1,1,1-Trichloroethane	< 2.5	2.5	
Benzene	4.22	2.5	
Carbontetrachloride	< 2.5	2.5	
Cyclohexane	< 2.5	2.5	
2-Methyl Hexane	< 2.5	2.5	
2,3-Dimethylpentene	< 2.5	2.5	
3-Methylhexane	< 2.5	2.5	
1,2-Dichloropropane	< 2.5	2.5	
Bromodichloromethane	< 2.5	2.5	
Trichloroethylene	< 2.5	2.5	
Isooctane	< 2.5	2.5	
Heptane	< 2.5	2.5	
1,3-Dichloro-1propene	< 2.5	2.5	
cis-1,3-Dichloropropene	< 2.5	2.5	
MIBK	< 2.5	2.5	
Methylcyclohexane	< 2.5	2.5	
trans-1,3-dichloropropane	< 2.5	2.5	
1,1,2-trichloroethane	< 2.5	2.5	
2,3,4-Trimethyl pentane	< 2.5	2.5	
Toluene	< 2.5	2.5	
2-methylheptane	< 2.5	2.5	
2-Hexanone	< 2.5	2.5	
Dibromochloromethane	< 2.5	2.5	
3-Methylheptane	< 2.5	2.5	
1,2-Dibromoethane	< 2.5	2.5	
Octane	< 2.5	2.5	
Tetrachloroethylene	< 2.5	2.5	

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CHEMTEX FILE #: P10040114

RESULTS OF ANALYSIS

PROJECT No: Canister 4570

PROJECT NAME: City of Houston DIAL

PROJECT LOCATION: Shell Deer Park

SAMPLE IDENTIFICATION: Downwind of ACU/BEU

CHEMTEX #: P10040114

Analyte	Result (ppb, v)	Reporting Limit, (RL) (ppb, V)	Flag
Chlorobenzene	< 2.5	2.5	
Ethylbenzene	< 2.5	2.5	
m,p-Xylene	< 2.5	2.5	
Bromoform	< 2.5	2.5	
Styrene	< 2.5	2.5	
1,1,2,2-tetrachloroethane	< 2.5	2.5	
o-xylene	< 2.5	2.5	
Nonane	< 2.5	2.5	
Isopropylbenzene	< 2.5	2.5	
Propylbenzene	< 2.5	2.5	
m-Ethyltoluene	< 2.5	2.5	
p-Ethyltoluene	< 2.5	2.5	
1,3,5-trimethylbenzene	< 2.5	2.5	
o-Ethyltoluene	< 2.5	2.5	
1,2,4-trimethylbenzene	< 2.5	2.5	
Benzylchloride	< 2.5	2.5	
1,3-Dichlorobenzene	< 2.5	2.5	
Decane	< 2.5	2.5	
1,4-Dichlorobenzene	< 2.5	2.5	
1,2,3-Trimethylbenzene	< 2.5	2.5	
1,2-Dichlorobenzene	< 2.5	2.5	
m-Diethylbenzene	< 2.5	2.5	
p-Diethylbenzene	< 2.5	2.5	
Undecane	< 2.5	2.5	
1,2,4-Trichlorobenzene	< 2.5	2.5	
Dodecane	< 2.5	2.5	
Hexachloro1,3-butadiene	< 2.5	2.5	

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Report Date: 04/07/10

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Bureau of Air Quality Control

Phone: 832-393-5631; Fax: 713-640-4341

E-mail: Dan.hoyt@cityofhouston.net

CHEMTEX FILE #: P10040114

QA/QC
LABORATORY CONTROL SAMPLE (LCS) RECOVERIES
QC BATCH ID: AT040510

Analyte	True value (ppb,v)	Obtained Value (ppb,v)	% Rec	Flag
Propylene	10.00	13.68	137	
Propane	10.00	12.24	122	
Isobutane	10.00	11.93	119	
1-Butene	10.00	12.61	126	
Butane	10.00	12.48	125	
t-2-Butene	10.00	12.70	127	
c-2-Butene	10.00	12.45	125	
Isopentane	10.00	10.79	108	
1-Pentene	10.00	11.50	115	
Pentane	10.00	12.07	121	
Isoprene	10.00	12.07	121	
t-2-Pentene	10.00	12.04	120	
c-2-Pentene	10.00	11.89	119	
2-Methyl-2-butene	10.00	11.89	119	
2,2-Dimethyl butane	10.00	11.74	117	
Cyclopentane	10.00	11.08	111	
3-Methylpentane	10.00	9.47	95	
1-Hexene	10.00	9.23	92	
2-methyl-1-pentene	10.00	9.02	90	
Hexane	10.00	10.19	102	
MethylCyclopentane	10.00	11.37	114	
2,4-Dimethylpentane	10.00	11.55	116	
Benzene	10.00	10.93	109	
Cyclohexane	10.00	11.06	111	
2-Methyl Hexane	10.00	8.68	87	
2,3-Dimethylpentane	10.00	8.76	88	
3-Methylhexane	10.00	8.69	87	
Heptane	10.00	8.11	81	
Methylcyclohexane	10.00	8.25	83	
2,3,4-Trimethyl pentane	10.00	8.46	85	
Toluene	10.00	7.96	80	
2-methylheptane	10.00	8.51	85	
3-Methylheptane	10.00	8.39	84	
Octane	10.00	7.70	77	

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Report Date: 04/07/10

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Phone: 832-393-5631; Fax: 713-640-4341
E-mail: Dan.hoyt@cityofhouston.net

CHEMTEX FILE #: P10040114

QA/QC
LABORATORY CONTROL SAMPLE (LCS) RECOVERIES
QC BATCH ID: AT040510

Analyte	True value (ppb,v)	Obtained Value (ppb,v)	% Rec	Flag
Ethylbenzene	10.00	7.94	79	
m,p-Xylene	20.00	15.86	159	
Styrene	10.00	8.36	84	
o-xylene	10.00	8.22	82	
Nonane	10.00	8.60	86	
Isopropylbenzene	10.00	8.82	88	
Propylbenzene	10.00	8.54	85	
m-Ethyltoluene	10.00	8.57	86	
p-Ethyltoluene	20.00	17.50	175	
1,3,5-trimethylbenzene	10.00	8.76	88	
o-Ethyltoluene	10.00	8.75	88	
1,2,4-Trimethylbenzene	10.00	8.74	87	
Decane	10.00	8.66	87	
1,2,3-Trimethylbenzene	10.00	8.38	84	
m-Diethylbenzene	10.00	8.24	82	
p-Diethylbenzene	10.00	8.08	81	
Undecane	10.00	7.73	77	

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E-mail: Dan.hoyt@cityofhouston.net

CHEMTEX FILE #: P10040114

FLAGS

RL: Reporting Limit

J: Target analyte is between the MDL and RL values.

L: Target analyte recovered below the recovery limit.

H: Target analyte recovered above the recovery limit.

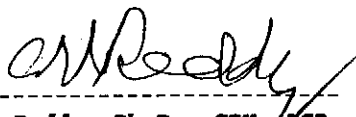
METHOD REFERENCES/ANALYSIS DATES & ANALYSTS

Analytes
VOAs

Method
EPA Method TO-15

Date Analyzed/Analyst
04/05/10 KBR

amd/kml*/CNR



Dr. C. N. Reddy, Ph.D., CIH, ASP
Director

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E-mail: chemtex@a@sbcglobal.net

INDUSTRIAL HYGIENE

ANALYTICAL SERVICES REQUEST

Chemical #

P10040114

[illegible]

Facilities are also available: 5544 Leopard Street, Corpus Christi, Texas 78408; (361) 299-9900 e-mail: chemtexcc@sbcglobal.net and 138 S. Cities Service Hwy., Sulphur, Louisiana 70663; (337) 626-2121 e-mail: chemtexla@sbcglobal.net

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City of Houston
Bureau of Air Quality Control
Canister Sampling Data Sheet and Chain-of-Custody



Sample ID:	Canister #: 4570
-------------------	-------------------------

Canister Cleaning Information (Laboratory Personnel Only)		
Canister Cleaning Operation	Pressure	Initials / Date
Canister Cleaned and Evacuated	in Hg	
Media Blank Evacuation	in Hg	

Sampling and Analysis Request Information (BAQC Investigator Only)		
Canister Received: (Initials / Date)	Canister Pressure (Upon Receipt): in Hg	
Pre-Sampling Pressure: -28.8 in Hg Pre-Sampling Leak Test (Circle) <u>Pass</u> / Fail (* If the difference is greater than ± 2 in Hg, do not use the canister for sampling)		
Start Time: 16:10 pm	End Time: 17:10 pm	Elapsed Time: 60 min
Post-Sampling Pressure: -8.0 in Hg		
Potential Source (s) (Company's Name): Shell Chemical Co.	Potential Source (s) (Company's Address (es):	
Sample Collection Address: DOWNWIND OF ACU/BEU	Alleged Chemical (s) (If Known)	
GPS Coordinates: 29.72188 N, 95.12305 W	Weather Conditions: WD: ESE WS: 4.2 MPH	
Sample Collected By: Peter Chen	Sample Date: 3/26/10	
Phone Number: 832-393-5622	E-mail: Peter.Chen@cityofhouston.net	
Site Description and Field Comments:		

Analysis Method Requested (Circle) VOC's by TO-15 / Other Describe:
--

Canister Leak Test Information (BAQC Mobile Lab Personnel Only)					
Canister Leak Test	Field Pressure (in Hg)	Lab Pressure (in Hg)	Difference in Pressure	Test Results (Circle)	Initials / Date
Final				Pass / Fail / NA	

Canister Preparation Information (BAQC Mobile Lab Personnel Only)			
Canister Preparation	Dilution 1	Dilution 2	Initials / Date:
Pre-Dilution Pressure	-8 in Hg	in Hg	
Post-Dilution Pressure	14.0 psi	psi	
Dilution Factors	#1 2.2486	#2	
Laboratory Comments: 2.808 pc 3/31/10			

Chain of Custody	
Relinquished by: (Signature/Date)	Received by: (Signature/Date)
Peter Chen (3/30/10)	J. Quinn 3/31/10 8:40 Francis Agostini 3/31/10 8:40



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Attn: **Mr. Dan Hoyt**
Bureau of Air Quality Control
Phone: 832-393-5631; Fax: 713-640-4341
E-mail: Dan.hoyt@cityofhouston.net

Report Date: 04/07/10
Sample Matrix: Gas
Date Collected: 03/23/10
Time Collected: 3:45-3:560
Collected By: Isaac Desous
Date Received: 03/25/10
Time Received: 4:00pm
CHEMTEX FILE #: P10030776

RESULTS OF ANALYSIS

PROJECT No: Canister 1353

PROJECT NAME: DIAL

PROJECT LOCATION: Shell Deer Park

~400 Feet North of TOL913

SAMPLE IDENTIFICATION: TOL-913

CHEMTEX #: P10030776

Analyte	Result (ppb, v)	Reporting Limit, (RL) (ppb, V)	Flag
Propylene	15.43	2.5	
Propane	8.58	2.5	
Freon 12	< 2.5	2.5	
Chloromethane	< 2.5	2.5	
Freon 114	< 2.5	2.5	
Isobutane	< 2.5	2.5	
Vinyl chloride	< 2.5	2.5	
1-Butene	5.89	2.5	
1,3-Butadiene	7.33	2.5	
Butane	5.42	2.5	
t-2-Butene	3.28	2.5	
Bromomethane	< 2.5	2.5	
c-2-Butene	3.11	2.5	
Chloroethane	< 2.5	2.5	
Acetone	< 2.5	2.5	
Isopentane	42.53	2.5	
Freon 11	< 2.5	2.5	
Isopropyl Alcohol	< 2.5	2.5	
1-Pentene	11.25	2.5	
Pentane	17.13	2.5	
Isoprene	21.86	2.5	
t-2-Pentene	7.20	2.5	
c-2-Pentene	3.26	2.5	
1,1-Dichloroethene	< 2.5	2.5	
2-Methyl-2-butene	3.26	2.5	
Methylene Chloride	< 2.5	2.5	
Carbon disulfide	2.99	2.5	
Freon 11	< 2.5	2.5	
2,2-Dimethylbutane	< 2.5	2.5	
Cis-1,2-Dichloroethane	< 2.5	2.5	
1,1-Dichloroethane	< 2.5	2.5	
Cyclopentane	< 2.5	2.5	
2,3-Dimethylbutane	< 2.5	2.5	
MTBE	< 2.5	2.5	
2-Methylpentane	2.50	2.5	
2-Butanone	< 2.5	2.5	
3-Methylpentane	< 2.5	2.5	

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RESULTS OF ANALYSIS

PROJECT No: Canister 1353

PROJECT NAME: DIAL

PROJECT LOCATION: Shell Deer Park

~400 Feet North of TOL913

SAMPLE IDENTIFICATION: TOL-913

CHEMTEX #: P10030776

Analyte	Result (ppb, v)	Reporting Limit, (RL) (ppb, V)	Flag
1-Hexene	< 2.5	2.5	
2-methyl-1-pentene	< 2.5	2.5	
trans-1,2-dichloroethene	< 2.5	2.5	
4-methyl-1-pentene	< 2.5	2.5	
Hexane	4.51	2.5	
Ethylacetate	< 2.5	2.5	
Chloroform	< 2.5	2.5	
TetrahydroFuran	< 2.5	2.5	
MethylCyclopentane	< 2.5	2.5	
2,4-Dimethylpentane	< 2.5	2.5	
1,1,1-Trichloroethane	< 2.5	2.5	
Benzene	53.38	2.5	
Carbontetrachloride	< 2.5	2.5	
Cyclohexane	< 2.5	2.5	
2-Methyl Hexane	< 2.5	2.5	
2,3-Dimethylpentene	< 2.5	2.5	
3-Methylhexane	< 2.5	2.5	
1,2-Dichloropropane	< 2.5	2.5	
Bromodichloromethane	< 2.5	2.5	
Trichloroethylene	< 2.5	2.5	
Isooctane	< 2.5	2.5	
Heptane	< 2.5	2.5	
1,3-Dichloro-1propene	< 2.5	2.5	
cis-1,3-Dichloropropene	< 2.5	2.5	
MIBK	< 2.5	2.5	
Methylcyclohexane	< 2.5	2.5	
trans-1,3-dichloropropane	< 2.5	2.5	
1,1,2-trichloroethane	< 2.5	2.5	
2,3,4-Trimethyl pentane	< 2.5	2.5	
Toluene	7.49	2.5	
2-methylheptane	< 2.5	2.5	
2-Hexanone	< 2.5	2.5	
Dibromochloromethane	< 2.5	2.5	
3-Methylheptane	< 2.5	2.5	
1,2-Dibromoethane	< 2.5	2.5	
Octane	< 2.5	2.5	
Tetrachloroethylene	< 2.5	2.5	

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138 S. Cities Service Hwy., Sulphur, Louisiana 70663 • (337) 626-2121 FAX (337) 626-2126

Client: **City of Houston**
7411 Park Place Blvd.
Houston, TX 77087

Attn: **Mr. Dan Hoyt**
Bureau of Air Quality Control

Phone: 832-393-5631; Fax: 713-640-4341
E-mail: Dan.hoyt@cityofhouston.net

Report Date: 04/07/10
Sample Matrix: Gas
Date Collected: 03/23/10
Time Collected: 3:45-3:560
Collected By: Isaac Desous
Date Received: 03/25/10
Time Received: 4:00pm
CHEMTEX FILE #: P10030776

RESULTS OF ANALYSIS

PROJECT No: Canister 1353

PROJECT NAME: DIAL

PROJECT LOCATION: Shell Deer Park

~400 Feet North of TOL913

SAMPLE IDENTIFICATION: TOL-913

CHEMTEX #: P10030776

Analyte	Result (ppb, v)	Reporting Limit, (RL) (ppb, V)	Flag
Chlorobenzene	< 2.5	2.5	
Ethylbenzene	< 2.5	2.5	
m,p-Xylene	< 2.5	2.5	
Bromoform	< 2.5	2.5	
Styrene	< 2.5	2.5	
1,1,2,2-tetrachloroethane	< 2.5	2.5	
o-xylene	< 2.5	2.5	
Nonane	< 2.5	2.5	
Isopropylbenzene	< 2.5	2.5	
Propylbenzene	< 2.5	2.5	
m-Ethyltoluene	< 2.5	2.5	
p-Ethyltoluene	< 2.5	2.5	
1,3,5-trimethylbenzene	< 2.5	2.5	
o-Ethyltoluene	< 2.5	2.5	
1,2,4-trimethylbenzene	< 2.5	2.5	
Benzylchloride	< 2.5	2.5	
1,3-Dichlorobenzene	< 2.5	2.5	
Decane	< 2.5	2.5	
1,4-Dichlorobenzene	< 2.5	2.5	
1,2,3-Trimethylbenzene	< 2.5	2.5	
1,2-Dichlorobenzene	< 2.5	2.5	
m-Diethylbenzene	< 2.5	2.5	
p-Diethylbenzene	< 2.5	2.5	
Undecane	< 2.5	2.5	
1,2,4-Trichlorobenzene	< 2.5	2.5	
Dodecane	< 2.5	2.5	
Hexachloro1,3-butadiene	< 2.5	2.5	

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Client: **City of Houston**
7411 Park Place Blvd.
Houston, TX 77087

Report Date: 04/07/10

Attn: **Mr. Dan Hoyt**
Bureau of Air Quality Control
Phone: 832-393-5631; Fax: 713-640-4341
E-mail: Dan.hoyt@cityofhouston.net

CHEMTEX FILE #: P10030776

QA/QC
LABORATORY CONTROL SAMPLE (LCS) RECOVERIES
QC BATCH ID: AT032910

Analyte	True value (ppb,v)	Obtained Value (ppb,v)	% Rec	Flag
Propylene	10.00	9.90	99	
Propane	10.00	8.80	88	
Isobutane	10.00	10.00	100	
1-Butene	10.00	10.02	102	
Butane	10.00	10.00	100	
t-2-Butene	10.00	9.90	99	
c-2-Butene	10.00	10.02	102	
Isopentane	10.00	9.10	91	
1-Pentene	10.00	9.60	96	
Pentane	10.00	9.80	98	
Isoprene	10.00	9.60	96	
t-2-Pentene	10.00	9.80	98	
c-2-Pentene	10.00	9.70	97	
2-Methyl-2-butene	10.00	9.70	97	
2,2-Dimethyl butane	10.00	9.80	98	
Cyclopentane	10.00	8.10	81	
3-Methylpentane	10.00	7.70	77	
1-Hexene	10.00	8.90	89	
2-methyl-1-pentene	10.00	8.70	87	
Hexane	10.00	8.90	89	
MethylCyclopentane	10.00	9.00	90	
2,4-Dimethylpentane	10.00	9.70	97	
Benzene	10.00	8.60	86	
Cyclohexane	10.00	9.00	90	
2-Methyl Hexane	10.00	9.50	95	
2,3-Dimethylpentane	10.00	9.50	95	
3-Methylhexane	10.00	9.50	95	
Heptane	10.00	8.70	87	
Methylcyclohexane	10.00	8.60	86	
2,3,4-Trimethyl pentane	10.00	9.30	93	
Toluene	10.00	8.20	82	
2-methylheptane	10.00	9.10	91	
3-Methylheptane	10.00	9.30	93	
Octane	10.00	8.70	87	

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Client: **City of Houston**
7411 Park Place Blvd.
Houston, TX 77087

Report Date: 04/07/10

Attn: **Mr. Dan Hoyt**
Bureau of Air Quality Control
Phone: 832-393-5631; Fax: 713-640-4341
E-mail: Dan.hoyt@cityofhouston.net

CHEMTEX FILE #: P10030776

QA/QC
LABORATORY CONTROL SAMPLE (LCS) RECOVERIES
QC BATCH ID: AT032910

Analyte	True value (ppb,v)	Obtained Value (ppb,v)	% Rec	Flag
Ethylbenzene	10.00	7.90	79	
m,p-Xylene	20.00	16.3	82	
Styrene	10.00	8.20	82	
o-xylene	10.00	8.20	82	
Nonane	10.00	8.90	89	
Isopropylbenzene	10.00	8.60	86	
Propylbenzene	10.00	8.20	82	
m-Ethyltoluene	10.00	8.10	81	
p-Ethyltoluene	20.00	16.30	82	
1,3,5-trimethylbenzene	10.00	8.30	83	
o-Ethyltoluene	10.00	8.20	82	
1,2,4-Trimethylbenzene	10.00	8.20	82	
Decane	10.00	8.40	84	
1,2,3-Trimethylbenzene	10.00	7.60	76	
m-Diethylbenzene	10.00	7.40	74	
p-Diethylbenzene	10.00	7.20	72	
Undecane	10.00	7.00	70	

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Report Date: 04/07/10

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Phone: 832-393-5631; Fax: 713-640-4341
E-mail: Dan.hoyt@cityofhouston.net

CHEMTEX FILE #: P10030776

FLAGS

RL: Reporting Limit

J: Target analyte is between the MDL and RL values.

L: Target analyte recovered below the recovery limit.

H: Target analyte recovered above the recovery limit.

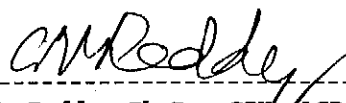
METHOD REFERENCES/ANALYSIS DATES & ANALYSTS

Analytes
VOAs

Method
EPA Method TO-15

Date Analyzed/Analyst
03/29/10 KBR

amd/kml*/CNR



Dr. C. N. Reddy, Ph.D., CIH, ASP
Director

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E-mail: chemtexpa@sbcglobal.net

INDUSTRIAL HYGIENE

ANALYTICAL SERVICES REQUEST

Client: City of Houston Attn: Mr. Dan Hoyt, Bureau of Air Quality Control		Address: 7411 Park Place Blvd. Houston, TX 77087			Phone: 832-393-5631 Fax: 713-640-4341 E-mail: Dan.Hoyt@cityofhouston.net		
(if different from above) BILLING CONTACT/ADDRESS:	P. O. #:	Project No.: <i>CANISTER 1353</i>	Project Name: <i>DIAL</i>		Project Location: <i>SHELL DEER PARK N400 FEET NORTH OF TOL913</i>		
CHEMTEX #	Sample Identification		Sample Media	Date Collected	Sampling Time (min)	Sampling Volume (lit)	Requested Parameters
<i>1353</i>	<i>TOL913</i>		<i>CANISTER</i>	<i>3/23/10</i>	<i>3:45 PM - 3:56 PM (11 MIN)</i>	<i>6L</i>	<i>P10030776.</i>
Sample(s) Collected By: <i>ISAAC DESOUZA</i>		Expected Turnaround Time Emergency Rush 2-4 hr Rush 24 hr Rush 48 hr Rush 7-14 days				<input type="checkbox"/> Regulatory <input type="checkbox"/> Non-Regulatory	
Relinquished By: <i>ISAAE DESOUSA</i>		Date/Time: <i>3/23/10 5:00 PM</i>		Received By: <i>FRANCIS AGOSTINI</i>		Date/Time: <i>3/23/10 5:00 PM</i>	
Relinquished By: <i>FRANCIS AGOSTINI</i>		Date/Time: <i>3/25/10 4:00PM</i>		Received for CHEMTEX By: <i>[Signature]</i>		Date/Time: <i>3/25/10 4:00pm</i>	

Facilities are also available: 5544 Leopard Street, Corpus Christi, Texas 78408; (361) 299-9900 e-mail: chemtexccc@sbcglobal.net and 138 S. Cities Service Hwy., Sulphur, Louisiana 70663; (337) 626-2121 e-mail: chemtexlcs@sbcglobal.net

NOTICE / DISCLAIMER: Client has asked Chemtex to perform the analyses listed above, on the samples described herein. Any analytical results, opinions or interpretations which may be provided to Client are based upon the information and material supplied by Client, for whose exclusive and confidential use a report will be made. No person or entity other than Client may rely on any such report. Any such reliance will be unjustified. Any person, other than Client, that reads or relies on any such report, does so at his or her own risk. Chemtex makes no warranty or representation, express or implied, of any type, and expressly disclaims same. Any report provided by Chemtex shall not be reproduced, in whole or in part, without the written approval of Chemtex. In no event shall Chemtex be responsible for any damage greater than the amount that it received for performing some or all of the analyses listed above.



City of Houston
Bureau of Air Quality Control
Canister Sampling Data Sheet and Chain-of-Custody



Sample ID: 1353	Canister #: 1353
------------------------	-------------------------

Canister Cleaning Information (Laboratory Personnel Only)		
Canister Cleaning Operation	Pressure	Initials / Date
Canister Cleaned and Evacuated	in Hg	
Media Blank Evacuation	in Hg	

Sampling and Analysis Request Information (BAQC Investigator Only)		
Canister Received: (Initials / Date) ID/3-23-10	Canister Pressure (Upon Receipt): -30 in Hg	
Pre-Sampling Pressure: -30 in Hg Pre-Sampling Leak Test (Circle) Pass / Fail (* If the difference is greater than ± 2 in Hg, do not use the canister for sampling)		
Start Time: 3:45 PM	End Time: 3:56 PM	Elapsed Time: 11 min
Post-Sampling Pressure: -1 in Hg		
Potential Source (s) (Company's Name): SHELL DEER PARK	Potential Source (s) (Company's) Address (es): TOL 913	
Sample Collection Address: ~400 FEET NORTH OF TOL 913 (DOWNWIND)	Alleged Chemical (s) (If Known) BENZENE	
GPS Coordinates:	Weather Conditions: PARTLY CLOUDY, SOUTH WIND DIRECTION	
Sample Collected By: ISAAC DESOUZA	Sample Date: 3-23-10	
Phone Number: 832-393-5627	E-mail: ISAAC.DESOUZA@CITYOFHOUSTON.NET	
Site Description and Field Comments: DOWNWIND ~400 FEET NORTH OF TOL 913. TIME RECORDED IS 5 MIN BEHIND DIAL CLOCK (START TIME: 3:50 PM, END TIME: 4:01 PM). PID READINGS 0-805 ppbv		

Analysis Method Requested (Circle) <input checked="" type="radio"/> VOC's by TO-15 / Other Describe:

Canister Leak Test Information (BAQC Mobile Lab Personnel Only)					
Canister Leak Test	Field Pressure (in Hg)	Lab Pressure (in Hg)	Difference in Pressure	Test Results (Circle)	Initials / Date
Final				Pass / Fail / NA	

Canister Preparation Information (BAQC Mobile Lab Personnel Only)			
Canister Preparation	Dilution 1	Dilution 2	Initials / Date:
Pre-Dilution Pressure	psia	psia	
Post-Dilution Pressure	psia	psia	
Dilution Factors	#1	#2	
Laboratory Comments:			

Chain of Custody	
Relinquished by: (Signature/Date)	Received by: (Signature/Date)
ISAAC DESOUZA / 3-23-10	FRANCIS AGOSTINI / 3-23-10
FRANCIS AGOSTINI / 3-25-10	/ 3-25-10

CHAIN OF CUSTODY DIAL

CANISTER NUMBER	1353	1393
DATE	3/23/10	3/23/10
START TIME	3:45 pm / 3:50 pm (5+ min) DIAL & SCOOT	4:02 pm / 4:07 pm (5+ min) DIAL & SCOOT
END TIME	3:56 pm / 4:01 pm	4:14 pm / 4:19 pm
INITIAL PRESSURE	-30 psi	-28 psi
FINAL PRESSURE	-1 psi	-2 psi
TYPE OF CANISTER	6L	6L
TYPE OF SAMPLE	integrated 15 min	"
LOCATION	north of tank - TOL downwind of 913	"
POSSIBLE SOURCE	TOL 913	"
DISTANCE FROM SOURCE	~130 yards (400 feet) north of TOL 913	"
WEATHER	clear sunny cloudy	"
WIND DIRECTION	South	"
PID READING	no - 805 ppb (higher readings)	0 - 499 ppb (higher readings)
DIAL READING	50-100 ppb benzene	"
TAKEN BY	I DeSouza	I DeSouza
SURRENDERED TO		BARB / ALT.

TESTAMERICA - AUSTIN
14050 SUMMIT DR. SUITE A-100
AUSTIN, TX 78728

Canister # 1353

Field ID 1 of 2

Site SHELL

Project DIAL

Sampler Initials ID

Date 3/23/10 Time 3:45 3:56

Comments ~ 400' TOL 913 PM

TO THE NORTH WINDS FROM

THE SOUTH

Sample Matrix: ☒ Ambient ☐ Source
☐ Routine ☐ Duplicate ☐ Blank ☐ Other ☐ Void

0.55 ppb/c

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

[illegible]